

Serial No. 08/936,304

Amdt. in Resp. to Off. Act. mailed Oct. 14, 2004

UTILITY PATENT

B&D No. TN2213A

REMARKS

Claim 11 has been amended. Claim 14 has been added. Accordingly, Claims 6-14 are pending in the present application.

The Examiner has rejected Claims 6-12 under 35 USC § 102(b) as being anticipated by US Patent No. 4,854,703 ("Ammann"). Reconsideration and withdrawal of this rejection is respectfully requested.

For the sake of clarity, the rejections to independent Claims 6 and 11 will be addressed separately.

Claim 6 calls for a laser level system comprising a rotating shaft, a motor coupled to the shaft adapted to drive the shaft more than 360 degrees in a single direction, a case rotatably supporting the rotating shaft, and a module housing attached to the rotating shaft, the module housing having a mechanical axis and containing a laser diode projecting a beam having a center ray, wherein the mechanical axis and the center ray of the beam are not coincident with respect to each other but define a reference plane, which is perpendicular to the rotating shaft.

Admittedly, Ammann has a laser level system including a rotating shaft, a motor coupled to the shaft adapted to drive the shaft more than 360 degrees in a single direction, a case rotatably supporting the rotating shaft, and a module housing attached to the rotating shaft, the module housing having a mechanical axis and containing a laser diode projecting a beam having a center ray. According to the Examiner, the laser diode contained by the module housing is in the lower part of shaft 6.

Serial No. 08/936,304

Amdt. in Resp. to Off. Act. mailed Oct. 14, 2004

UTILITY PATENT

B&D No. TN2213A

According to Ammann, the laser beam emitted by the laser diode moves upwardly through shaft 6 and is deflected by a prism into a horizontal beam. Ammann, col. 3, lines 65-58. In order for such laser level to be operable and provide the required level laser plane, the laser beam emitted by the laser diode must be coincident with the rotational axis of the rotational shaft and/or the module housing. Otherwise, the horizontal beam will not be in a level plane.

By contradistinction, Claim 6 requires that "the mechanical axis [of the module housing] and the center ray of the beam are not coincident with respect to each other." Because Ammann discloses a beam that is coincident with the mechanical axis, it cannot anticipate Claim 6 and its dependent claims.

Claim 11 calls for a laser level system comprising a shaft having a rotational axis, a motor coupled to rotate the shaft, a case rotatably supporting the rotating shaft, and a module housing extending from the shaft and containing a laser diode for projecting a laser beam to produce a reference plane, wherein the laser diode emits a beam that is disposed at an angle relative the rotational axis, so that, when the laser diode is rotated in a single movement about the rotational axis of the shaft, the produced reference plane is substantially perpendicular with the rotational axis of the rotating shaft.

Admittedly, Ammann has a laser level system including a shaft, a motor coupled to rotate the shaft, a case rotatably supporting the rotating shaft, and a module housing extending from the shaft and containing a laser diode for projecting a laser beam to produce a reference plane.

According to Ammann, the laser beam emitted by the laser diode moves upwardly through shaft 6 and is deflected by a prism into a horizontal beam. Ammann, col. 3, lines 65-58. In order for such laser level to be operable and provide the required level laser plane, the laser beam emitted by the

Serial No. 08/936,304

Amdt. in Resp. to Off. Act. mailed Oct. 14, 2004

UTILITY PATENT

B&D No. TN2213A

laser diode must be coincident with the rotational axis of the rotational shaft and/or the module housing. Otherwise, the horizontal beam will not be in a level plane.

By contradistinction, Claim 11 calls for "the laser diode emits a beam that is disposed at an angle relative the rotational axis" of the rotating shaft, "so that, when the laser diode is rotated in a single movement about the rotational axis of the shaft, the produced reference plane is substantially perpendicular with the rotational axis of the rotating shaft." Such arrangement is not found in Ammann.

Accordingly, Ammann cannot anticipate Claim 11 and its dependent claims.

The Examiner also rejected Claim 13 under 35 USC § 103(a) as being unpatentable over Ammann. This rejection is respectfully traversed.

Claim 13 calls for a laser level system for producing a level 360 degree reference plane, comprising a rotating shaft, a motor coupled to the shaft adapted to rotatably drive the shaft, a case rotatably supporting the shaft, and a module housing attached to the rotating shaft, the module housing containing a first laser diode for projecting a first beam having a first center ray and a second laser diode for projecting a second beam having a second center ray, wherein the first and second center rays are perpendicular to the rotating shaft, and the shaft being rotated so that the first and second laser diodes produce the level 360 degree reference plane.

Admittedly, Ammann has a laser level system including a rotating shaft, a motor coupled to the shaft adapted to drive the shaft more than 360 degrees in a single direction, a case rotatably supporting the rotating shaft, and a module housing attached to the rotating shaft and containing a laser diode projecting a beam having a center ray.

According to the Examiner, Ammann does not disclose a second laser diode. However, "absent any new or unexpected result the recited second laser diode is considered a mere

Serial No. 08/936,304

Amdt. in Resp. to Off. Act. mailed Oct. 14, 2004

UTILITY PATENT

B&D No. TN2213A

duplication of parts." Applicant submits that an unexpected result is obtained because, if Ammann were modified as suggested by the Examiner, it would be rendered unusable for its intended purpose. On the other hand, the claimed arrangement is usable, i.e., an unexpected result over Ammann.

According to Ammann, the laser beam emitted by the laser diode moves upwardly through shaft 6 and is deflected by a prism into a horizontal beam. Ammann, col. 3, lines 65-58. In order for such laser level to be operable and provide the required level laser plane, the laser beam emitted by the laser diode must be coincident with the rotational axis of the rotating shaft. Otherwise, the horizontal beam will not be in a level plane.

In order for both first and second rays to be coplanar and produce a single reference level plane, both first and second rays must be coincident with the rotational axis of the rotating shaft. This would require the two laser diodes to be disposed side-by-side in such manner that both first and second rays are coincident. Applicant submits that such arrangement is impossible to achieve. Even if it were possible, Ammann's deflecting prism would not separate the first and second rays, but reflect them together. Thus in reality only one beam is produced, rather than the claimed two rays.

If, on the other hand, the first and second diodes are disposed side-by-side so that the first and second rays are not coincident, the first and second rays would generate two separate reference planes, rather than the one. Furthermore, such planes would not necessarily be level, thus being unusable for construction. Such output would render the laser level unusable for its intended purpose.

Serial No. 08/936,304

Amdt. in Resp. to Off. Act. mailed Oct. 14, 2004

UTILITY PATENT

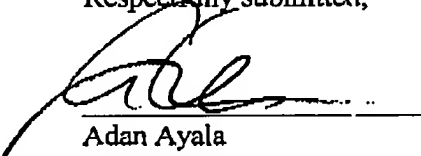
B&D No. TN2213A

Claim 13 requires that "a first laser diode for projecting a first beam having a first center ray and a second laser diode for projecting a second beam having a second center ray, wherein the first and second center rays are perpendicular to the rotating shaft, and the shaft being rotated so that the first and second laser diodes produce the level 360 degree reference plane." Because Ammann does not teach or suggest a usable laser level with such elements, it cannot render unpatentable Claim 13.

In view of the foregoing, Claims 6-14 is patentable and the application is believed to be in condition for formal allowance.

No fee is believed due. Nevertheless, the Commissioner is authorized to charge payment of any fees due in processing this amendment, or credit any overpayment to Deposit Account No. 02-2548.

Respectfully submitted,



Adan Ayala
PTO Reg. No. 38,373
Attorney for Applicant

Adan Ayala - TW-199
The Black & Decker Corporation
701 East Joppa Road
Towson, Maryland 21286
(410) 716-2368